

LEVIN, A.I.; PUSHKAREVA, S.A.

Effect of anions on the value of pH of hydration and electrodeposition
of a pulverized metal from solutions of iron sulfate. Zhur.prikl.
khim. 29 no.8:1223-1229 Ag '56. (MIRA 10:10)

1.Ural'skiy politekhnicheskii institut im. S.M. Kirova.
(Anions) (Hydration) (Electroplating)

SOV/80-32-5-22/52

5(2,4)

AUTHOR: Pushkareva, S.A.

TITLE: The Effect of Sulfur-Containing Compounds on the Magnesium Yield Per Current in the Electrolysis of Carnallite

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol 32, Nr 5, pp 1056-1060 (USSR)

ABSTRACT: Magnesium sulfate which is present in carnallite as an impurity decreases the magnesium yield in electrolysis [Ref 1]. This problem has been investigated quantitatively by Strokan, Vasil'yev, Popov, Rudnitskiy and Tverdovskiy [Refs 2-4]. The behavior of sulfates and sulfur-containing compounds in the electrolysis of magnesium is insufficiently studied, however. The yield of magnesium per current in the electrolysis of $MgCl_2 + KCl$ depending on the additions of $MgSO_4$ and MgS is studied here. Experiments were made in a 800ml quartz vessel with a graphite anode and a carbon iron cathode. In the absence of impurities the yield was 83.5%. At high contents of sulfur-containing compounds was covered with a dark porous film. In the presence of magnesium sulfate or sulfides the electrolyte assumes a blue color. At temperatures below 650°C no such color was observed. In an inert atmosphere the color was more intensive. Elementary sulfur

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SOV/80-32-5-22/52

The Effect of Sulfur-Containing Compounds on the Manganese Yield Per Current in the Electrolysis of Carnallite

produced the same color, even in the absence of magnesium metal. At the addition of a small quantity of finely dispersed magnesium oxide the color disappeared. It seems to be established that sulfates and sulfides are decomposed under the action of magnesium metal, chlorine and air with the separation of elemental sulfur. This sulfur colors the electrolyte. It must be assumed that sulfur forms polymers of the type S_n with a high surface activity. Sulfide has less effect on the yield than sulfate due to its low solubility which limits its content in the melt.

There are: 1 diagram, 1 graph and 6 references, 5 of which are Soviet and 1 German.

SUBMITTED: June 2, 1958

Card 2/2

LEVIN, A.I.; PUSHKAREVA, S.A.

Adsorption phenomena and cathodic processes involved in the electrodeposition of iron both in the compact and powdered form [with summary in English]. Zhur.fiz.khim. 31 no.9:1983-1991 S '57. (MIRA 11:1)

1. Ural'skiy politekhnicheskiy institut, Sverdlovsk.
(Iron) (Electroplating) (Adsorption)

5(4)

SOV/20-124-2-36/71

AUTHORS: Pushkareva, S. A., Ukshe, Ye. A.

TITLE: The Behavior of a Sulphate Ion in the Electrolytic Production of Magnesium (Povedeniye sul'fat-iona pri elektroliticheskom poluchenii magniya)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 2, pp 370-372 (USSR)

ABSTRACT: When a sulphate ion is introduced (in form of $MgSO_4$) into a chloride solution containing metallic magnesium, the electrolyte becomes blue and the intensity of coloring increases with an increase in the quantity of the introduced admixture. With a view of finding the cause of this coloring the authors carried out a series of experiments concerning the influence exercised by various sulphurous compounds on the coloring of the electrolyte. The experiments were carried out with quartz ampoules in argon atmosphere and gave the following results:
1) The introduction of magnesium sulphate into a $MgCl_2 + KCl$ solution containing no metallic magnesium (or in the case of the presence of solid magnesium, $t < 650^\circ$) causes no coloring.

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SOV/20-124-2-36/71

The Behavior of a Sulphate Ion in the Electrolytic Production of Magnesium

2) The introduction of $MgCl_2 + KCl$ into a solution not containing magnesium, sulphur, sulphite or thiosulphite causes blue coloring, but by the qualitative analysis of the solidified salt no ions SO_3^{-2} , SO_4^{-2} , S^{-2} were found. 3) When a blue coloring of the solution was found, elementary sulphur in the course of time was deposited on the walls of the quartz ampoule. The just discussed qualitative experiments lead to the following conclusion: When sulphurous compounds are introduced, they decompose actually either under the influence of high temperature (SO_3^{-2} , $S_2O_3^{-2}$) or in consequence of interaction with the dissolved magnesium (SO_4^{-2}). Thereby elementary sulphur is produced which is soluble in a chloride solution and evaporates from it very slowly. In the electrolyte the sulphur probably forms polymers or rings with the composition S_8 , S_6 etc, which have high surface activity in the ion liquid and can be adsorbed on the solid cathode. In order to confirm this assumption, the authors determined the capacity of the electric double layer on

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SOV/20-124-2-36/71

The Behavior of a Sulphate Ion in the Electrolytic Production of Magnesium

the surface of the molybdenum in the chloride solution. The results obtained by these measurements are shown by a diagram and explained. The presence of two desorption peaks on the curve capacity - potential makes it appear probable that the sulphur contained by the uncharged particles is the adsorbing substance. The authors thank B. N. Kabanov and D. I. Leykis for discussing the results obtained. There are 1 figure and 6 references, 5 of which are Soviet.

ASSOCIATION: Bereznikovskiy filial Vsesoyuznogo alyuminiyevogo-magniyevogo instituta (Berezniki Branch of the All-Union Aluminum-Magnesium Institute)

PRESENTED: July 31, 1958, by A. N. Frumkin, Academician

SUBMITTED: July 25, 1958

Card 3/3

USSR/ Physical Chemistry - Electrochemistry

B-12

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11350

Author : Levin A.I., Pushkareva S.A.

Title : On the Effect of Anions on pH Value in Hydrate-Formation and
Electrodeposition of Pulverulent Metal from Solutions of Iron Sulfate

Orig Pub : Zh. prikl. khimii, 1956, 29, No 8, 1223-1229

Abstract : By electrolytic titration with a glass electrode a study has been made of the pH of initial hydrate formation in FeSO_4 solutions, depending on the concentration of FeSO_4 , nature and valency of extraneous anions (A) (Cl^- , NO_3^- , SO_4^{2-} , PO_4^{3-}) and organic substances (gelatin, Trylon B, extract of chlorvinyl fabric). With increase in FeSO_4 concentration the pH of initial hydrate formation decreases. Influence of extraneous A on lowering of pH of hydrate formation is the more pronounced the higher the charge of A. Organic substances affect pH of hydrate formation only if they dissociate in solution with formation of surface-active A. It is shown that in order to produce highly dispersed pulverulent Fe the most stable electrolyte is 1.5M FeSO_4 + 40 g/l NaCl.

1/1

USSR/Soil Science. Physical and Chemical Properties of Soils. I-2

Abs Jour: Referat.Zh.Biol., No. 16, 25 Aug, 1957, 69009

Abstract: ponding character of the surrounding soil is negligibly small, is 500 cm², and the height, 50 cm. Soil and subsoil water found below the depth of daily fluctuations of soil temperature (50 cm), show no appreciable effect on evaporation from soil surface in the absence of a deep root system. The use of soil evaporators GGI-500 is recommended. The water character of soil monoliths in these evaporators is similar to the water character of soil under natural conditions. The evaporator secures a sufficiently exact evaporation measurement from a bare surface, as well as from soil surface covered by vegetation. In the latter case evaporators with an area of 500 cm² and a height of 80-100 cm and hydraulic evaporation, which are the most exact instruments for measuring evaporation from soil surface, may be used. The data are presented on 41 tables. Bibl. 22 refs.

Card 2/2

- 14 -

PUSHKAREVA, V. I.

KALMYKOV, S. T., PUSHKAREVA, V. I., Vet.
Scientific-Production Laboratory for the fight against Diseases of
the Young

Ministry of Sovkhozes, RSFSR.

"A-Vitaminosis of the newborn calves."

SO: Vet. 28 (1) 1951, p. 43

Also: U-5246

PUNCHED

PUSHKASEVA, V. I., TERGYZOVA, T. YA., MALAKHOVA, T. I., and ICHENICHNIKOV, V. G.
(Scientific-Production Laboratory for the Control of Diseases of the Young Live-
stock, of the Ministry of Agriculture, and Chief-Veterinary Surgeon of the State
Farm imeni Stalin, Moscow-Gbl'st')

The new vitamin and antibiotic preparation of propomy cellin.

Vet. binariya vol. 38, no. 9, September 1961, pp.66.

PUSHKAREV, V. V.

USSR/Physical Chemistry - General Problems of Isotope Chemistry, B-7

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 60987

Author: Pushkarev, V. V.

Institution: None

Title: Sorption of Radioactive Isotopes by $\text{Fe}(\text{OH})_3$ Hydroxide

Original

Periodical: Zh. neorgan. khimii, 1956, 1, No 1, 170-178

Abstract: Investigation of capture (C) of Cs^{137} , Sr^{89-90} , Ru^{106} , and Ce^{144} (at microconcentrations) by iron hydroxide (I). From a solution of FeCl_3 were prepared sols of I which coagulated on addition of Na_2SO_4 solution. Increase of Na_2SO_4 concentration up to a certain value increases C of ions, which the author attributes to greater completeness of coagulation of I. Capture of Cs at I is practically absent under investigated conditions. C of Sr, Ce, Ru on their introduction into solution prior to coagulation proceeds to a somewhat greater extent than on absorption on the prepared precipitate. C of these ions practically does not occur at low pH

Card 1/2

USSR/Physical Chemistry - General Problems of Isotope Chemistry, B-7

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 60987

Abstract: (pH < 2-3); thereafter with increasing pH, beginning at a definite pH, C increases sharply, reaches a maximum and decreases anew. This decrease the author attributes to peptization of L. Strong increase of C takes place: with Ru at pH ~ 3, with Ce at pH ~ 4 and with Sr at pH ~ 7; maximum C occurs with Ru at pH ~ 6, with Ce at pH ~ 6.5 and with Sr at pH ~ 9. With increase in temperature C increases; on subsequent cooling desorption is not observed.

Card 2/2

PUSHKAREV, V...

Effect of denervation of an intestinal segment on immunogenesis in
enteral vaccination. Zhur.mikrobiol.epid. i immun. 28 no.7:154
J1 '57. (MIRA 10:10)

1. Iz kafedry patofiziologii Molotovskogo meditsinskogo instituta i
Molotovskogo instituta vaktsin i syvorotok.
(INTESTINES--INNERVATION)
(DYSENTERY--PREVENTIVE INOCULATION)

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
PROCESSES AND PROPERTIES INDEX																										1ST AND 2ND ORDERS																									
<p><i>Co</i></p> <p>The physiology of the salivary secretion center. B. Z. PUMKAREVA AND E. A. BELIANSKAJA. <i>Zhur. expil. Biol. Med.</i> 13, 37-42(1929). Sectioning of the cord below the medulla causes permanent irritation of the salivary center resulting in spontaneous secretion. If the spontaneous secretion stops the salivary center can be again stimulated to continued activity through asphyxia. Injections of CaCl₂ increase the spontaneous secretion and heighten the reflex effect of stimulating the lingual or laryngeal nerves, while 0.01-0.02 of morphine inhibits these.</p> <p>S. MORGULIS</p>																										<p><i>11 F</i></p>																									
<p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																										<p>E-2</p>																									

RUSHEATWA, H. V.

Tobacco

Intervariety tobacco hybrids. Tabak 13 No. 1, 1952.

9. Monthly List of Russian Accessions, Library of Congress, June 1952. ~~XXXX~~ 1953, Uncl.

LABORATORIA MEDICA Sec 14 Vol 13/6 Radiology June 27

1100. THE ROLE OF DIFFUSING TOXIC SUBSTANCES IN PLANT RADIATION INJURY (Russian text) - Pushkareva M. I. - BIOFIZIKA 1958, 3/4 (447-453) Graphs 1 Tables 4 Illus. 2

The indirect effect of irradiation was investigated by studying the substances arising in response to irradiation in seedlings. The following results were observed: (1) When roentgen ray-irradiated bean seedlings grow in water, no biologically active substances, influencing the growth of the non-irradiated seedlings, diffuse into the water. (2) Biologically active substances, influencing the growth of the non-irradiated seedlings, were likewise not observed in water extracts of the irradiated seedlings. (3) Irradiated seedlings, growing side by side with non-irradiated seedlings, did not influence the growth rate of the latter. (4) Irradiation of the middle portion of the seedling's root with a narrow roentgen ray beam did not affect the general length of the root, measured 6-7 days after the irradiation, whereby the size of the stalk was reduced. (5) The observations concerning the destruction of growth-stimulating substances by irradiation in seedlings, described in the literature, were confirmed.

(XIV, 5, 16)

EXCERPTA MEDICA Sec 16 Vol 7/6 Cancer June 59

2036. **The role of diffusing toxic substances in plant radiation injury**
(Russian text) PUSHIKAREVA M. I. *Biophizika* 1958, 3 4 (447-453); Graphs 1 Tables 4
Illus. 2

The indirect effect of irradiation was investigated by studying the substances arising in response to irradiation in seedlings. The following results were observed: (1) When roentgen ray-irradiated bean seedlings grow in water, no biologically active substances, influencing the growth of the non-irradiated seedlings, diffuse into the water. (2) Biologically active substances, influencing the growth of the non-irradiated seedlings, were likewise not observed in water extracts of the irradiated seedlings. (3) Irradiated seedlings, growing side by side with non-irradiated seedlings, did not influence the growth rate of the latter. (4) Irradiation of the middle portion of the seedling's root with a narrow roentgen ray beam did not affect the general length of the root, measured 6-7 days after the irradiation, whereby the size of the stalk was reduced. (5) The observations concerning the destruction of growth-stimulating substances by irradiation in seedlings, described in the literature, were confirmed.

KURSANOV, A.L.; KRYUKOVA, N.N.; PUSHKAREVA, M.I.

Dark fixation and liberation of carbon dioxide supplied to the plant through its roots. Doklady Akad. Nauk S.S.S.R. 88, 937-40 '53. (MLRA 6:2) (CA 47 no.16:8195 '53)

1. A.N.Bakh Inst. Biochem., Acad. Sci. U.S.S.R., Moscow.

ACCESSION NR: AR4014946

S/0271/63/000/012/B008/B009

SOURCE: RZh. Avt., tel. i vy*chisl. tekhnika, Abs. 12B41

AUTHOR: Pushkareva, P. V.

TITLE: Algorithm for computing the cross-correlation function, auto-correlation function, and spectral density on an electronic computer

CITED SOURCE: Nauchn. tr. Sib. fil. Vses. n.-i. in-ta mekhaniz. s. kh. vy*p. 1, 1963, 84-92

TOPIC TAGS: cross-correlation function, autocorrelation function, spectral density, algorithm, computer application

TRANSLATION: The author describes the procedure used to compute the indicated functions (F) used in conjunction with the computer at the Institute of Mathematics of the Siberian Branch of the Academy of Sciences USSR. Two successive numbers constituting the values of the two F equidistant in time are used in constructing the algorithm of the cross-correlation F . The computation of the autocorrelation function was carried out for normal random processes with a zero average. This was done with the aid of the cosine of non-coincidence of the signs of its values at

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ACCESSION NR: AR4014946

equidistant points. The spectral F algorithm was constructed with the aid of expansion in a series. The accuracy of determination of these F is determined by the length of the time interval under consideration, the size of the interval between the points, and the character of the random process. The computation time for the various F algorithms on the computer was 3-5 minutes of machine time for 1400-1700 points. Examples of the resulting graphs of autocorrelation F and block diagrams of F computing programs on electronic computers are given. Four illustrations. V.L.

DATE ACQ: 09Jan64

SUB CODE: CP

ENCL: 00

Card 2/2

PUSHKAREVA, S.A., kand.tekhn.nauk; BELYSHOVA, N.A., inzh.

Using copper plating for restoring brushholder dimensions. Vest.
TSNII MPS 19 no.1:59-60 '60. (MIRA 13:4)

1. Ural'skoye otdeleniye Vsesoyuznogo nauchno-issledovatel'skogo
instituta zheleznodorozhnogo transporta Ministerstva putey
soobshcheniya.

(Brushes, Carbon (Electric)--Maintenance and repair)
(Electric locomotives)

PUSHKAREVA, S.A.; UKSHE, Ye.A.

Behavior of the sulfate ion during the electrolytic production
of magnesium. Dokl.AN SSSR 124 no.2:370-372 Ja '59.

(MIRA 12:1)

1. Bereznikovskiy filial Vsesoyuznogo alyuminiyevo-magniyevogo
instituta. Predstavleno akademikom A.N. Frumkinym.
(Electrolysis) (Magnesium sulfate)

NIKITIN, Yu.P.; TARANUKHINA, L.V.; SEREDINA, L.R.; PUSHKAREVA, S.A.;
POPOVA, I.A.; VERSHININA, N.V.

Activity of oxides in liquid aluminum silicates. Izv.vys.ucheb.
zav.; tsvet.met. 5 no.1:74-76 '62. (MIRA 15:2)

1. Ural'skiy politekhnicheskii institut, kafedra tekhnologii silikatoz.
(Aluminum silicates) (Activity coefficients)

PUSHKAREVA, T.P.

Comments by delegate to the 22d Congress of the CPSU. Geog.
v shkole 25 no.1:8-9 Ja-F '62. (MIRA 15:1)
(Communist Party of the Soviet Union--Congresses)

DUBROVIN, G.D.; BELYAYEV, M.G.; ORLOVA, Z.V.; KALMYKOV, S.T.; SERGEYEVA, T.Ya.
PUSHKAREVA, V.I.

Unrefined biomycin in stockbreeding. Veterinariia 36 no.12:55-58
D '59. (MIRA 13:3)

1.Nauchno-proizvodstvennaya laboratoriya po bor'be s boleznyami
molodnyaka sel'skokhozyaystvennykh zhiivotnykh Ministerstva sel'skogo
khozyaystva RSFSR.
(Aureomycin) (Stock and stockbreeding)

PUSHKAREVA, Yu. N.: ^{2nd} Master Med Sci (diss) -- "The clinical treatment of dys-
entery in immunized and non-immunized young children". Novosibirsk, 1958. 18 pp
(Sverdlovsk State Med Inst), 200 copies (KL, No 1, 1959, 124)

Phenazine series 1. Oxidation of phenazine. Z. V. Pushkareva and G. I. Agabekova, *J. Gen. Chem.* (U.S.S.R.), 38, 1517 (1968). Phenazine in 200 ml of dil. HCl treated with excess NaOH and then gradually oxidized in 12 hrs. on a boiling water bath with 60 g. KMnO_4 in 500 ml. H_2O gave 80% 2,3-quinoxalindicarboxylic acid, m. 190°. The anhydride, m. 250°. The oxidation of phenazine in cold CHCl_3 with Br_2/Na gave not the expected yellow phenazine oxide (II), m. 230°, but the expected yellow phenazine oxide (III), m. 202.3° (decolor.). (Wohl and Aue, *Ber.* 34, 2440 (1901)), but phenazine dioxide (III), red-orange prisms, m. 202.3° (decolor.). Similar to I, heating II with As_2O_3 or Fe filings gave phenazine. Owing to the highly complex conjugated phenazine system, involving the electronic polarization of the mesomeric state of the mol. (cf. Ingold, *Adv. Repts. Chem. Sci.* 23, 129 (1926)), Wohl's structure of

I, $\text{C}_{12}\text{H}_6\text{O}$, C_{12}H_6 , is considered as improbable. The

exptl. proof of the unsym. constitution of I was furnished by the formation of 2-methylphenazine oxide, m. 142°, from PhNH_2 with $\alpha\text{-MeC}_6\text{H}_4\text{NH}_2$ and that of its 4-Me isomer, m. 158°, from PhNH_2 with $\alpha\text{-MeC}_6\text{H}_4\text{NO}_2$ by condensation with NaNH_2 , instead of the only 1 compd. possible according to the Wohl formula. In analogy with other heterocyclic oxides (cf. Meischner, *C. A.* 21,

94; Hantz, *C. A.* 30, 1498 (1937)), the II in I is combined with the N atom by the coordination bond, while in II each O atom is similarly connected with the N atom in the mol. Approx. 25 references. II. Oxidation of acetyldihydrophenazine. Z. V. Pushkareva and I. Yu. Postovskii, *Ibid.* 158 (1968). Acetyldihydrophenazine (I), m. 151.5-4°, was prepd. in 40% yield from dihydrophenazine with 2 mols. Ac_2O on standing at room temp. for 2 days. I when oxidized with 2 mols. of anhyd. FeCl_3 in cold CHCl_3 pptd. black-violet crystals (II), m. 137°. II gives yellow-green solns. in AcOH and PhMe , which change on heating to a deep green and on cooling to a yellow. The concd. soln. pptd. orange crystals (III), m. 193.4°, which give a stable orange soln. in alk. and an intense green soln. in camphor. It is postulated that in the oxidation of I there is formed a free base radical which is immediately stabilized with 1 mol. of the unaltered I to form the black complex in analogy with the flavon compds. described by Kuhn and Ströbele (*C. A.* 31, 4327). The bond is effected by the coordination II as in the phenazine quinhydrones synthesized by Cleino and McIlwain (*C. A.* 29, 1425, 1845). On heating in a soln. II is dissociated into the free base radical and I, on cooling the assocn. proceeds in 2 directions with the formation of the black complex II and the orange dimer (III) $(\text{C}_{12}\text{H}_6\text{O})_2\text{N}_2\text{A}_2\text{N}_2$. When I is oxidized with an excess FeCl_3 (4 mols.) only the dimer III is formed, since no free I is left to stabilize the free base radical. When alk. sapon. of III gives 2 mols. of phenazine. When an equal mixt. of III and I is heated at 200° and the black melt is extd. with CHCl_3 it gives II. This in AcOH on heating gives a green soln. and forms III. Twenty references.

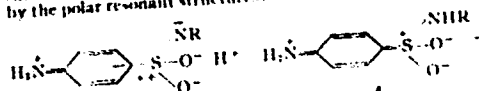
LIST AND NO. GROUPS		PROCESSES AND PROPERTIES ONLY		LIST AND NO. GROUPS	
10		10		10	
<p>Sulfanilamide derivatives of benzoquinones. I. Ya. Postovskii and Z. V. Pushkareva. <i>J. Gen. Chem.</i> (U.S.S.R.) 16, 277-82 (1946). Benzoquinone (3.21 g.) in 20 vols. EtOH and 4.5 g. sulfanilamide in 10 parts boiling water were mixed and refluxed for 2 hrs.; after filtration of the hot mixt. there was obtained 2.8 g. brown crystals of 2,6-bis(4-sulfanilamidobenzoyl)benzoquinone (I), m. above 300°. The product is inactive against tuberculosis bacilli <i>in vivo</i>, although there is slight effect <i>in vitro</i>. The use of N¹-acetyl-sulfanilamide as above gave 2,6-bis(4-acetamidobenzoyl)-anthraquinone (II), m. above 300°, which was inactive against tuberculosis bacilli <i>in vitro</i> and slightly active <i>in vivo</i>. Sulfanilamide (7 g.) in 20 parts hot water was mixed with 2.4 g. chloranil in 50 cc. hot EtOH and heated for 2 hrs. to give 84% 2,6-di-Cl-deriv. of I, brown-colored, m. above 300°. The use of N¹-acetylsulfanilamide gave the 2,6-di-Cl-deriv. of II, brown gray, m. above 300°. In mouse expts. it was shown that the compds. described limited tuberculosis bacilli to the lungs only, while in controls the bacilli were found throughout the body.</p> <p>G. M. Kosolapoff</p>					
<p>ASB-3.1.4 METALLURGICAL LITERATURE CLASSIFICATION</p>					

ca

Relation between structure and bacteriostatic activity of sulfanilamide compounds. I. Resonance energy of α -sulfanilamide compounds. Z. V. Pushkareva and Yu. Kotochko (Ural Ind. Inst., Sverdlovsk) *Zh. Fiz. Khim.* (U.S.S.R.) **10**, 1280-78 (1940) (in Russian).

The heat of combustion of 10 sulfanilamide-type compds. was detd. and, by comparison of the resonance energies of deaminated sulfanilamides with the parent compds., the magnitude of the excess resonance energy due to the para substitution was detd. The latter is believed to be caused by the polar resonant structures:

.NHR



It is believed that the wt. of the "quinoid" polar resonant structures det. the capacity of the compd. to compete with p-H₂N-C₆H₄-CO-NH₂ (I) and to possess bacteriostatic activity. The heats of combustion of the compds. (in kg.-cal./mole) were: I 819.0; p-H₂N-C₆H₄-CONH₂, 887; C₆H₅-SO₂NH₂, 813; p-H₂N-C₆H₄-SO₂NH₂, 840; m-H₂N-C₆H₄-SO₂NH₂, 812.4; 4,2-H₂N(C₆H₃)SO₂NH₂, 905.0; C₆H₅-SO₂NH₂, 812.4; 4,2-H₂N(C₆H₃)SO₂NH₂, 1033.0; N-2-pyridylthiazene-sulfonamide 1113.5; sulfapyridine 1428.0.

G. M. Kosolapoff

POSTOVSKIY, I.Ya.; PUSEKAREVA, Z.V.

A.M. Butlerov on the peculiarities of chemical bonds in aliphatic and aromatic compounds. Usp.khim. 22 no.6:762-772 Je '53. (MLRA 6:5)
(Chemical structure) (Butlerov, Aleksandr Mikhailovich, 1823-1886)

Pushkareva, L.V.

Properties and structure of some aromatic diazoamino derivatives of guanidine. L. V. Pushkareva, V. Shishkina, and L. V. Varyukhina (Inst. Chem. Polytch. (Inst.). Doklady Akad. Nauk S.S.S.R. 92, 80-82 (1953).

Comparison of $p\text{-ClC}_6\text{H}_4\text{N}(\text{NH})\text{NHC}(\text{NH})\text{NHCHMe}_2$ (I) and $p\text{-ClC}_6\text{H}_4\text{N}(\text{NH})\text{NHC}(\text{NH})\text{NHCHMe}_2$ (II), shows that tautomerism in such mole. as I is a result of interaction between the aliphatic radical and the triazene group. Isomers with $\text{ArNHN}:\text{NR}$ structure eliminate N upon treatment with mineral acids, yielding ArNHR , while isomers with $\text{ArN}:\text{NNHR}$ structure are cleaved into a diazo compd., which then decomp. normally. Fusion of iso-

$\text{PrNH}_2\cdot\text{HCl}$ with dicyandiamide at 150° gave 62% $\text{H}_2\text{NC}(\text{NH})\text{NHC}(\text{NH})\text{NHCHMe}_2\cdot\text{HCl}$, m. $251-2^\circ$; the sulfate, m. 228° ; nitrate, m. 151° . The HCl salt with $p\text{-ClC}_6\text{H}_4\text{N}:\text{Cl}$ in weakly alk. medium gave a yellowish substance, m. $182-4^\circ$, sol. in concd. HCl but not in alkali, identified as II. This with dry HCl in Et_2O gave a HCl salt, m. $88-9^\circ$. II can be reduced on a Hg electrode. Treatment of II.HCl with aq. HCl gave $p\text{-ClC}_6\text{H}_4\text{OH}$ and $\text{H}_2\text{NC}(\text{NH})\text{NHC}(\text{NH})\text{NHCHMe}_2$. Similar treatment of I.HCl gave N and $p\text{-ClC}_6\text{H}_4\text{NHC}(\text{NH})\text{NHCHMe}_2$. Treatment of I and II in HCl medium with $2\text{-C}_6\text{H}_5\text{OH}$ for "fixation" of the diazo intermediate resulted in establishment of some 20% $\text{ArN}:\text{NNHR}$ isomer in I and 80% of $\text{ArNHN}:\text{NR}$ isomer; for II these proportions were 90% and 10%, resp. (cf. Ershov and Ioffe, *C.A.* 34, 5429). Such isomers of II could not

be isolated, but an aq. alk. soln. of I acidified with HCl formed an intensely yellow ppt., decompd. $150-8^\circ$ (from EtOH), giving with EtONa a Na salt, which on soln. in H_2O and acidification with HCl yielded a colorless ppt., m. $153-4^\circ$. Both ppts. have the same compn. and give only $4-5^\circ$ a m.p. depression when mixed. However the yellow isomer of I forms a tar with dil. HCl and yields N; the colorless isomer yields N and $p\text{-ClC}_6\text{H}_4\text{NHC}(\text{NH})\text{NHCHMe}_2$. Polarographic reduction of the 2 isomers gave a half-wave potential of -0.44 v. for the yellow and -0.21 v. for the colorless form. Apparently the colorless isomer is mainly $\text{ArNHN}:\text{NR}$, and the yellow form is $\text{ArN}:\text{NNHR}$. The half-wave potentials for other analogs are: colorless isomer of I.HCl -0.21 v.; Na salt of I -0.18 v.; I Me deriv. -0.10 v.; II -0.71 v.; II.HCl -0.71 v.; PhN_2Ph , -0.41 v. Apparently the formation of $p\text{-chloro-phenylcyanoguanidine}$ from the diazoamino deriv. such as I depends on a tautomeric shift in favor of the $\text{ArNHN}:\text{NR}$ form, and not on the formation of a labile HCl salt, as suggested by Walther, *et al.* (*C.A.* 10, 592). G. M. K.

US

INDEX
PUSHKAREVA, Z.V.

Structure of 9-aminoacridine. Z. V. Pushkareva and Z. Yu. Kokoshko (S.M. Kirov Inst. Polytch. Inst., Sverdlovsk). *Doklady Akad. Nauk S.S.S.R.* 93, 77-80 (1953).— On the basis of detn. of dipole moments in C_6H_5 at 25° combined with the calcn. of vectorial moments of the normal 9-aminoacridine mol. and its tautomeric imino form, it was concluded that: introduction of NH_2 into 9-position of acridine ring yields highly polar mols. with moments of 4.13 D. or higher, while the moment of $PhNH_2$ is but 1.54 D. and that of acridine is 1.64 D. The moment of the tautomeric form of imino structure is lower than the actually observed values by 2.5-2.9 D. The moment calcd. for the NH_2 forms (free rotation of NH_2) is but slightly higher than the observed values. Thus the results do not confirm the imino structure (cf. Karyakin, *et al.*, *C.A.* 44, 3909c) except as a minor component in tautomerism. The formation

of 9,10-diacyl derivs. (cf. Grigorovskii, *C.A.* 47, 2176b) is inconclusive since the actual structures of these are not verified. Formation of true 9,10-diacyl derivs. can occur either by the reaction of the imino form or by isomerization and further acylation of normal 9-acetamidacridine. The observed moments (in D.) were: acridine 1.94; 9-aminoacridine 4.13; diacetyl-9-aminoacridine 2.53; 3-chloro-9-aminoacridine 4.84; 2-methoxy-9-aminoacridine 4.66; 2-methoxy-6-chloro-9-aminoacridine 6.73; 2-methoxy-9-chloroacridine 1.70; 3,9-dichloroacridine 2.01; 2-methoxy-6,9-dichloroacridine 2.91; 9-chloroacridine 0. Cf. Short, *C.A.* 47/6254; Bergmann, *et al.*, *C.A.* 26, 2901. G. M. K.

PUSHKAREVA, Z. V.

USSR/Chemistry

Card 1/1

Authors : Pushkareva, Z. V.; and Kokoshko, Z. Yu.

Title : Dipole moments and structure of certain sulfanilamide compounds

Periodical : Zhur. Ob. Khim. 24, Ed. 5, 870 - 876, May 1954

Abstract : The dipole moments of twelve sulfanilamide substances were measured. The dipole moments were then compared with the moments of molecules which contain hydrogen atoms instead of homologous substituents. By comparing the experimental dipole moments with the moments computed by the method of vector sums the authors discovered a specific effect of the interaction between the NH_2 and SO_2NHR groups which were oriented in para-position. The dipole moments of sulfanilamides, as a rule, are greater than the simple vector sum of moments of the substituent groups. Six references. Tables, graphs.

Institution: The S. M. Kirov Polytechnical Institute, Ural

Submitted : July 11, 1953

PUSHKAREVA, Z. V.

USSR/Chemistry

Card 1/1

Authors : Kokoshko, Z. Yu.; and Pushkareva, Z. V.

Title : Dipole moments and structure of certain acridine derivatives

Periodical : Zhur. Ob. Khim. 24, Ed. 5, 877 - 881, May 1954

Abstract : The dipole moments of twelve substances of the acridine series were measured by the heterodyne method in benzene solutions at 25° and the density of the solutions was measured with the aid of torsion weights. By comparing the obtained values of dipole moments with corresponding vector sums of bond moments, the authors discovered the effect of reaction of the substitutes oriented in specific positions of the acridine ring. Three references. Tables, graphs.

Institution: The S. M. Kirov Polytechnical Institute, Ural

Submitted : July 11, 1953

PUSHKAREVA, Z.V.; MEDOVSHCHIKOVA, F.F.; SHTAMM, A.K.; SMIRNOVA, L.V.

Investigations of chemical processes in the synthesis of papaverine;
synthesis and properties of certain acyl derivatives of α -amino-
(3,4-dimethoxy)-cinnamic acid. Med.prom. no.2:25-29 Δ p-Je '55.
(MLRA 9:12)

1. Laboratoriya organicheskogo sinteza Ural'skogo politekhnicheskogo
instituta imeni S.M.Kirova.

(ACIDS,

cinnamic acid, α -amino- β -(3,4-dimethoxy)-cinnamic acid
acyl deriv., synthesis in prod. of papaverine)

(PAPAVERINE, preparation of,

synthesis of α -amino- β -(3,4-dimethoxy)-cinnamic acid
acyl deriv. in)

PUSHKAREVA, Z. V.

USSR/Chemistry - Acridines

Card 1/1 Pub. 22 - 23/45

Authors : Pushkareva, Z. V., and Varyukhina, L. V.

Title : Study of heterocyclic N-oxides. Synthesis and properties of N-oxides of certain acridine derivatives

Periodical : Dok. AN SSSR 103/2, 257-260, Jul 11, 1955

Abstract : It is shown that heterocyclic N-oxides can be obtained either synthetically or through oxidation of homologous heterocyclic bases with organic per-acids hydrogen peroxide in ice cold acetic acid and in some cases with persulfuric acid. Best results in the synthesis of heterocyclic N-oxides were obtained during the oxidation with perbenzoic acid. The properties of acridine N-oxides are described. Twenty-two references: 9 USSR, 6 USA, 1 Eng., 2 Germ and 4 Rum. (1917-1953). Table.

Institution : Ural Polytechnic Inst. im. S. M. Kirov

Presented by : Academician I. N. Nazarov, January 29, 1955

Pushkareva, Z.

✓ Heterocyclic N-oxides. III. Polarographic reduction of some heterocyclic N-oxides. L. V. Varyukhina and Z. V. Pushkareva. *Zhur. Obshch. Khim.*, 26, 1740-8(1956); *Ch. S.S.S.R.*, 50, 80674. Polarographic reduction of N-oxides in acetate buffer in EtOH gave the following values of half-wave potentials (relative to satd. calomel cell) and limiting diffusion current in millamp., resp.: pyridine N-oxide -1.364, 2.70; quinoline N-oxide -1.164, 6.47; acridine N-oxide -0.854, 4.66; quinoxaline mono-N-oxide, -0.650, 9.10; phenazine N-oxide -0.218 and -0.382, 3.5 and 3.10; quinoxaline bis-N-oxide -0.018, 10.36; phenazine dioxide -0.218 and -0.364, 7.77 and 4.04; 9-chloroacridine N-oxide -0.746 and -1.508, 7.77 and 1.03; 9-chloroacridine -0.630 and -1.490, 4.66 and 1.81; 2-methoxy-9-chloroacridine N-oxide -0.773 and -1.472, 7.80 and 1.52; 3-nitro-9-chloroacridine N-oxide -0.290, -0.854, and -1.368, 1.09, 0.83 and 0.42; 3-nitro-9-chloroacridine -0.317, -0.680 and -1.400, 0.94, 1.04, and 0.28; 2-methoxy-6,9-dichloroacridine N-oxide -0.863 and -1.290, 1.25 and 0.31; PhN(O)Me₂ -1.018, 3.37. The curves are reproduced in the paper. Generally the reduction of the NO link is facilitated by increase of the no. of condensed aromatic rings in the mol. and by introduction of a 2nd N atom. There is a parallel between the half-wave potentials of reduction of N-oxides in this group with the dipole moments of the substances.

G. M. Kosolapoff

USSR/Analysis of Inorganic Substances

G-2

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19598

Author : Z. V. Pushkareva, M. S. Usova, O. I. Levchenko

Inst : Polytechnical Institute of Uralsk

Title : To The Question of Utilizing Organic Compounds
in Analysis of Platinum Metals and Gold. Report
I. Power of Series of Heterocyclic Compounds to
Precipitate Platinum Metals from Solutions.

Orig Pub: Tr. Ural'skogo Politekhn. In-ta, 1956, sb. 57,
183 - 191.

Abstract: The power of 23 heterocyclic compounds (HC) -
derivatives of pyridine, quinoline, acridine,
phenazine, pyrimidine, sulfathiazole and pheno-
thiazine containing Cl, NH₂, NO₂, OH, SH and OCH₃

Card 1/3

- 74 -

PUSHKAREVA, Z. V.

Category: USSR/Analytical Chemistry - General Questions.

G-1

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 30932

Author : II. Usova M. S., Pushkareva Z.V., Levchenko O. I.
III. Usova M. S., Gayeva N. F.

Inst : Urals Polytechnical Institute

Title : Use of Organic Compounds in the Analysis of Platinum-Group Metals and Gold. Communication II. Precipitation Capacity of Some Noble Metals in the Urea, Thiourea and Guanidine Series. Communication III. Use of Phenothiazine for the Determination of Platinum in Alloys.

Orig Pub: Tr. Ural'skogo politekhn. in-ta, 1956, sb. 57, 192-200; 201-206.

Abstract: II. Report of the results of qualitative tests on the capacity of some substituted urea, thiourea (I) and guanidine (II) compounds, to precipitate platinum metals (PM) from solution. Introduction of phenyl- and heterocyclic residues into the molecules of I and II, clearly enhances the capacity of I and II to precipitate noble metals from solution. The introduction into the

Card : 1/2

-12-

USSR/ Physical Chemistry - Molecule. Chemical bond

B-4

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 10888

Author : Pushkareva Z.V., Varyukhina L.V., Kokoshko Z.Yu.

Inst : Academy of Sciences USSR

Title : Investigation of Heterocyclic N-Oxides. Dipole Moments and Chemical Characteristics of N-Oxides of Some Heterocyclic Compounds

Orig Pub : Dokl. AN SSSR, 1956, 108, No 6, 1098-1101

Abstract : By the hetrodyne method, in C_6H_6 at 25° , were measured the dipole moments (μ) of the following substances: N-oxide of pyridine (I) 4.23, N-oxide of quinoline (II) 4.00, N-oxide of acridine (III) 4.08, N-oxide of quinoxaline (IV) 2.53, N-oxide of phenazine (V) 1.76, NN-dioxide of quinoxaline (VI) 2.27, NN-dioxide of phenazine (VII) (melting point $189-191^\circ$) 2.20, VII (melting point $202-203^\circ$) 1.40, N-oxide of 9-chloracridine (VIII) 2.62, N-oxide of 2-methoxy-9-chloracridine (IX) 3.38, N-oxide of 3-nitro-9-chloracridine (X) 6.08, N-oxide of 2-methoxy-6,9-dichloracridine (XI) 5.51. Dipole moments (μ) of heterocyclic N-oxides are higher in all instances than μ of the oxidized bases. Value of μ III shows that direction of N-O bond forms a certain angle with line extending through C_2 and N, which may be due to an

Card 1/2

USSR/ Physical Chemistry - Molecule. Chemical bond

B-4

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 10888

interaction of oxygen atom with phenyl rings of acridine molecule. Moments of V and VIII characterize polarity of N-O bond in phenazine and acridine series, respectively, since the corresponding oxidized compounds have moments equal to zero. Values of μ of VII of different melting points permit the assumption of the existence of two isomers of VII. From μ I, II, IV were calculated μ N-O, equal to 3.01, 2.80 and 1.86, respectively. By a comparison of measurements of polarity of N-O bond with values of half-wave potentials, characterizing the reduction capability of these bonds, it is shown that with decrease in μ of N-O bond its electrochemical reduction is facilitated, apparently for the reason that greatest absorption occurs with least μ because of geometric configuration of the molecules.

Card 2/2

BOGDANOV, G.F., red.; BYCHKOVSKAYA, O.V., red.; ZERCHANINOV, L.K.,
red.; MEDVINSKAYA, K.G., red.; PERETTS, L.G., prof., red.;
PUSHKAREVA, Z.V., red.; DAVYDOVA, I., red.; PAL'MINA, N.,
tokhn.red.

[Increasing the activity of antibiotics, sulfonamides, and
blood serum; collection of articles] Uvelichenie aktivnosti
antibiotikov, sul'famidov i krovianoi syvorotki; sbornik statei.
Sverdlovsk, 1957. 205 p. (MIRA 13:1)

1. Sverdlovskiy nauchno-issledovatel'skiy institut antibiotikov.
(ANTIBIOTICS) (SULFONAMIDES) (SERUM)

PUSHKAREVA, Z.V.; GRIGORI'YEV, A.D.

Obtaining vanillin from raw material containing lignin. Med.prom.
11 no.8:6-11 Ag '57. (MIRA 10:11)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova.
(VANILLIN) (LIGNIN)

AUTHORS: Omel'chenko, S. I., Pushkareva, Z. V., 79-12-12/43
Bogomolov, S. G.

TITLE: Investigation of the Structural Peculiarities and Chemical
Transpositions of Carbazole and its Derivatives
(Issledovaniye osobennostey stroyeniya i khimicheskikh prevra-
shcheniy karbazola i nekotorykh yego proizvodnykh)
The Absorption Spectra in the Ultra-Violet Part of Carbazole
and some of its Derivatives
(Spektry pogloshcheniya v ultrafiolete karbazola i nekotorykh
yego proizvodnykh)

PERIODICAL: Zhurnal Obshchey Khimii 1957, Vol. 27, Nr 12, pp. 3220-3226
(USSR)

ABSTRACT: Inspite of many possibilities, to gain carbazole in important
quantities in the big coking plants, up to now stone coal
carbazole was exploited only very little. One of the reasons
is the peculiarity of its chemical properties. Its chemistry
elaborated already as to the most important points still lacks
explanation as to practically most appropriate reactions. The
work of the authors is dedicated to the investigation of the
structural peculiarities of the chemical transpositions and to
the practical applicability of some carbazole derivatives.
As it is known the characteristic properties of a molecule

Card 1/3

Investigation of the Structural Peculiarities and Chemical Transpositions of Carbazole and its Derivatives. The Absorption Spectra in the Ultra-Violet Part of Carbazole and some of its Derivatives. 79-12-12/43

are mainly based on the position of the electrons and on the type of the compound. Therefore, in order to investigate the properties of the carbazole molecule, special attention was paid to its absorption centres in the ultra violet and partly also in the visible part. 10 derivatives of carbazole and of diphenylamine were synthesized and the absorption spectra of 13 compounds were put up. It was demonstrated that in the occasion of the transition from the diphenylamine derivatives to those of carbazole the occurrence of the diphenyl compound causes a considerable change in the ultraviolet absorption spectra. The substituents at the nitrogen atom in the case of carbazole as well as in the case of diphenylamine produce different effects according to their electronic character. The fixation of the unseparated electron couple in nitrogen by the formation of the N - oxides practically leads to the elimination of nitrogen from the compound and to an abrupt change of the optic molecular properties.

There are 6 figures, 1 table, and 13 references, 5 of which are Slavic.

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Investigation of the Structural Peculiarities and Chemical Transpositions of Carbazole and its Derivatives. The Absorption Spectra in the Ultra-Violet Part of Carbazole and some of its Derivatives. 79-12-12/43

ASSOCIATION: Ural Polytechnical Institute
(Ural'skiy politekhnicheskiy institut)

SUBMITTED: October 25, 1956

AVAILABLE: Library of Congress

1. Carbazole - Synthesis
2. Carbazole - Spectra
3. Carbazole - Structural analysis

Card 3/3

AUTHORS: Nechayeva, O. N., Pushkareva, Z. V. SOV/79-28-10-14/60

TITLE: Investigation of the Heterocyclic N-Oxides
(Issledovaniye geterotsiklicheskikh N-okisey)
VI. Polarographic Reduction of Some N-Oxides of the
Phenacine and Acridine Series (Polyarograficheskoye
vosstanovleniye nekotorykh N-okisey fenazinovogo i
akridinovogo ryadov)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 10, pp 2695-2701
(USSR)

ABSTRACT: The N-oxides of the nitrogen-containing heterocyclic compounds
are of special interest as physiologically active compounds
(Refs 1-3). Until now the N-oxides of the pyridine and
quinoline series (Ref 4) have been investigated in detail. In
previous papers the authors had systematically investigated
the N-oxides of the complex heterocyclic systems (acridine,
quinoxaline, phenazine etc.)(Refs 5-8). L.V. Varyukhina (Ref 7)
succeeded in finding the dependence of the structure on the
easiness with which the (N→O) bond is reduced. Continuing
these investigations the authors subjected the compounds
(IV)-(XI), in the series of phenazine, and (XIV)-(XXV), in the

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Investigation of the Heterocyclic N-Oxides.
VI. Polarographic Reduction of Some N-Oxides of the
Phenazine and Acridine Series

SOV, 79-28-10-14/60

series of acridine, to a polarographic reduction; some of them were then to be investigated with respect to their physiological activity. In the phenazine derivatives the effect of various substituents on the stability of the ($N \rightarrow O$) bond as related to the reduction on the dropping mercury electrode, as well as with respect to the reducibility of the heterocyclic system itself was to be investigated. In the series of acridine the N-oxides of the 9-amino and 9-hydrazine derivatives (XIX), (XXI), (XXIII), (XXV) as well as the N-oxides of the 9-phenoxy derivatives (XV)-(XVII) synthesized by the authors were investigated for the first time, as they are of special interest as intermediate products in the synthesis of the 9-amino and 9-hydrazine derivatives. Thus, 20 heterocyclic compounds were polarographically investigated. It was found that the introduction of substituents of different character into the molecule of the N-oxides of acridine and phenazine exerts an important influence on the magnitude of the semi-wave potential of the ($N \rightarrow O$) bond and on the heterocycle itself. The electron absorbing NO_2 group causes a displacement of the semi-wave

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Investigation of the Heterocyclic N-Oxides.

SOV/79-28-10-14/60

VI. Polarographic Reduction of Some N-Oxides of the
Phenazine and Acridine Series

potential to the positive values. The nucleophilic groups
(NH_2, OH), however, displace the semi-wave potential to the
negative side. There are 20 figures, 2 tables, and
9 references, 6 of which are Soviet.

ASSOCIATION: Ural'skiy politekhnicheskiy institut
(~~Ural~~ Polytechnical Institute)

SUBMITTED: August 8, 1957

Card 3/3

AUTHORS: Pushkareva, Z. V., Nechayeva, O. N. 30V/79-28-10-15/60

TITLE: Investigations of the Heterocyclic N-Oxides (Issledovaniye geterotsiklicheskiykh N-okisey) VII. Dipole Moments and Chemical Characteristic Features of Some Derivatives of the N-Oxides of Phenazine and Acridine. (VII. Dipol'nyye momenty i khimicheskiye osobennosti nekotorykh proizvodnykh N-okisey fenazina i akridina)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 10, pp 2702-2705 (USSR)

ABSTRACT: Pushkareva and her collaborators had previously published the results of the determination of the dipole moments of the N-oxides for various heterocyclic systems and had also demonstrated the dependence of the dipole moment of the (N→O) bond on the structure of the heterocycle as well as the interaction between the polarity of this compound and its reducibility on the dropping mercury electrode (Ref 1). Some N-oxides of phenazine (I) and acridine (VIII) with different substituents in the nucleus were synthesized by the authors to investigate their effect on bacteria ; they also subjected them to the polarographic reduction

Card 1/3

Investigations of the Heterocyclic N-Oxides.

SOV/79-28-10-15/60

VII. Dipole Moments and Chemical Characteristic Features of Some
Derivatives of the N-Oxides of Phenazine and Acridine

(Refs 2,3). The dipole moments of many of these N-oxides and their corresponding non-oxidized bases were investigated; the determinations are described in this paper (with respect to the phenazine derivatives (II)-(VII) and the acridine derivatives (IX)-(XVI)). The compounds (II)-(VII), (IX), (XII) and (XIII) were synthesized according to known methods. The compounds (X), (XI), (XIV) and (XVI) had been already previously synthesized and described by the authors (Ref 2). All these compounds were carefully purified till the constant melting point. The results of the determinations of the dipole moments are given in table 1. The experimental and calculated comparative values of the dipole moments for the derivatives of phenazine (I) are given in table 2, those for the derivatives of acridine (VIII) in table 3. The physiological investigations of the products obtained are still going on. In any case, the introduction of the oxide oxygen in most cases leads to valuable biological properties. There are 3 tables and 6 references, 1 of which are Soviet.

Card 2/3

Investigations of the Heterocyclic N-Oxides, SOV/79-28-10-15/60
VII. Dipole Moments and Chemical Characteristic Features of Some
Derivatives of the N-Oxides of Phenazine and Acridine

ASSOCIATION: Ural'skiy politekhnicheskii institut (Ural Polytechnical
Institute)

SUBMITTED: August 8, 1957

Card 3/3

AUTHORS: Omel'chenko, S. I., Pushkareva, Z. V. SOV/79-28-10-16/60

TITLE: Investigations of the Structural Characteristic Features and the Chemical Reactions of Carbazole and Some of Its Derivatives (Issledovaniye osobennostey stroyeniya i khimicheskikh prevrashcheniy karbazola i nekotorykh yego proizvodnykh)
II. On Some Properties of the 3-Amino Carbazole and Its Derivatives (II. O nekotorykh svoystvakh 3-aminokarbazola i yego proizvodnykh)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 10, pp 2706-2710 (USSR)

ABSTRACT: With few exceptions detailed investigations have not yet been made of the 3-amino carbazole, the syntheses of which are often carried out in different ways (Refs 1-6). For this reason the authors investigated the alkylation, acylation and carboxy methylation reactions of this compound as well as the absorption spectra in the ultraviolet of all derivatives obtained. The methylation with dimethyl sulfate takes place at room temperature in alkaline medium forming 3-dimethyl amino carbazole (I). The acetylation with acetic anhydride can lead to the formation of the mono, di, and triacetyl derivatives. The monobenzoyl derivative (II) can be obtained

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Investigations of the Structural Characteristic SOV/79-28-10-16/60
Features and the Chemical Reactions of Carbazole and Some of Its Derivatives.
II. On Some Properties of the 3-Amino Carbazole and Its Derivatives

by the reaction with benzoyl chloride in the presence of sodium alcoholate. The carboxy methylation reaction was only carried out to obtain the 3-carbazyl glycine (III), the analog of phenyl glycine, which is the source product of indigoid dyes. Compound (II) could, however, only be methylated with bromo acetic acid. The closure of the oxindole cycle (Scheme 2-(III)→(IV)) failed. All reactions carried out show the considerable difference between the amino group of 3-amino carbazole and the amino groups of ordinary aromatic amines. The comparison of the spectral curves in the ultra-violet range of the 3-amino carbazole derivatives showed that their chemical characteristic features come from the reciprocal effect of the electron systems of the hetero atoms and the nitrogen of the amino group. There are 5 figures and 7 references, 1 of which is Soviet.

ASSOCIATION: Ural'skiy politekhnicheskii institut
(~~Ural'skiy politekhnicheskii institut~~)

Card 2/3

Investigations of the Structural Characteristic SOV/79-28-10-16/60
Features and the Chemical Reactions of Carbazole and Some of Its Derivatives.
II. On Some Properties of the 3-Amino Carbazole and Its Derivatives

SUBMITTED: August 7, 1957

Card 3/3

5(3)

SOV/20-123-2-26/50

AUTHORS: Pushkareva, Z. V., Radina, L. B.

TITLE: Synthesis and Properties of Phenazine Salts (Polucheniye i svoystva soley fenaziniya) On the Problem of the Interrelation Between the Chemical Structure and the Capability of Forming Free Nitrogen Radicals (K voprosu o vzaimosvyazi mezhdru khimicheskim stroyeniyem i sposobnost'yu obrazovaniya svobodnykh radikalov azota)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 2, pp 301-304 (USSR)

ABSTRACT: The diaryl nitrogens (Ref 1), N-oxides of diaryl nitrogen (Ref 2), hydrazyl- (Ref 3), and some other radicals (Ref 4) belong to the free radicals where nitrogen forms the atom carrying a solitary electron. Free radicals in the alloxazine- (Ref 5) and phenazine (Ref 6) series belong to the same series of compounds. The latter are little investigated, but nevertheless are very interesting. The detailed investigation of their properties can contribute to the explanation of the nature of some biological redox processes. The synthesis of a

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SOV/20-123-2-26/50

Synthesis and Properties of Phenazine Salts. On the Problem of the Interrelation Between the Chemical Structure and the Capability of Forming Free Nitrogen Radicals

small number of derivatives of alloxazine and phenazine with properties of the free radicals of the so-called phenacyls (Ref 6) was described (Refs 5-8). In order to clarify the influence of the nature of the acyl upon the stability of the radicals of the type monoacetyl-phenazyl (II) the authors first synthesized chemically different azyls. In order to produce analogs of the monoacetyl phenazyl a great number of monoacyl-dihydro-phenazines (V) - (XI) were synthesized, which contain different acyl radicals. (VII) - (XI) were synthesized for the first time. A short characteristics of the produced substances is given in table 1. In all cases the experimentally found dipolar moments (in benzene at 25⁰, Table 1) were close to the moments calculated for various configurations of the substances in question. The acyl radical in these compounds is, as a rule, in a transposition to the phenyl nuclei of the dihydro phenazine part of the molecule, and in a cisposition with respect to the hydrogen of the NH group (Fig 1). Based on these facts it may be assumed that the acyl radical which is

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taken out from the conjugation with the phenyl nuclei in such a configuration, does not exert any important effect upon the properties of the NH bond in the monoacyl dihydro phenazines. This assumption was proved by the measurement of the absorption spectra of the latter substances in the ultraviolet range (Table 1): Their spectra proved to be very close to each other and were also very similar to the spectrum of the diphenyl amine where the acyl radical lacks completely. The oxidation by an excess amount of ferric chloride of the compounds (V), (VI), and (VII) unexpectedly lead to the formation of an identical oxidation product (melting point 195-197°). This further transformed into a substance that was the same as the earlier known (Ref 7) orange-colored product (melting point 191-193°). The investigation of the latter showed that it does not contain an acetyl group and therefore forms a product of the oxidative deacylation of the monoacetyl dihydro phenazine; it is a complex containing 3-valent iron; its chlorine content amounts to 20.78%, that of nitrogen to 10.48%. This compound

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also is highly paramagnetic. Its ultraviolet spectrum is similar to that of phenazine and completely different from the spectrum of monoacetyl dihydro phenazine (Fig 2). From these and other properties the formula (XII) is proposed for the oxidation product of the monoacetyl dihydro phenazine that has the properties of a free radical. It contains two molecules of hydrochloric phenazine (of the type of the Veits salts) which, according to coordination, are bound to the $FeCl_3$. The mentioned orange-colored product (formula (XIII)) probably is the result of several transformations of the phenazine cation. The formation of the latter cation was experimentally proved (formula (XIV)). It is the known black substance (Ref 7) with the melting point at 137° . There are 2 figures, 1 table, and 10 references, 3 of which are Soviet.

ASSOCIATION: Ural'skiy politekhnicheskiy institut im. S. M. Kirova (Ural Polytechnical Institute imeni S. M. Kirov)

Card 4/5

5(3)

AUTHORS:

Radina, L. B., Pushkareva, Z. V., Kokoshko, Z. Yu.

SOV/20-123-3-28/54

TITLE:

Structure of Some Hydrazine Derivatives Versus Their Properties, Especially, Their Ability of Dissociation Into Free Radicals (O strukture, svoystvakh i sposobnosti k dissotsiatsii na svobodnyye radikaly nekotorykh proizvodnykh gidrazina)
On the Relationship Between Chemical Structure and the Ability of Forming Free Nitrogen Radicals (K voprosu o vzaimosvyazi mezhdu khimicheskimi stroeniyem i sposobnost'yu k obrazovaniyu svobodnykh radikalov azota)

PERIODICAL:

Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 3, pp 483-486 (USSR)

ABSTRACT:

The causes of the opposite character of the rules governing the dissociation into free radicals of the molecules of: hexa-arylethanes (I), tetraaryl hydrazines (II) and N-oxides of the diaryl nitrogen according to the structure of the substituents in the phenyl rings (X) remained as yet unsolved. The presented scheme illustrates the interrelation between the character of the substituent groups and the formation of free radicals in the series of compounds of this type. For the experimental

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elucidation of the causes of the above-mentioned facts, the authors investigated the chemical transformations and the polarographic reductibility as well as the dipole moments of a specially selected group of substances of the series of the di- and tetra-substitution products of hydrazine. Among substances investigated the so-called model-compounds have a central position: tetraphenylhydrazine (II, $X=H$), which moderately dissociates into 2 molecules of diphenyl-nitrogen; tetra-p-nitrophenyl-hydrazine (II, $X=NO_2$) which cannot be dissociated into radicals; finally tetra-p-anisyl-hydrazine (II, $X=OCH_3$) which possesses an increased dissociating power into free radicals; further the diphenyl-hydrazine substitution products corresponding to the compounds mentioned with a general formula(IV). The results of the polarographic reduction of the hydrazine derivatives (on the micro polarograph of Heyrovsky) in acetate-and ammonia-buffer solutions are given in table 1. The following was found: 1) Each substitution of the hydrogens in hydrazine (mono-, di- or tetra-) facilitates

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the reduction on the dropping mercury electrode. 2) In the series of the diaryl-substituted hydrazines the half-wave potential at the introduction of NO₂-groups into the p-positions of the phenyl rings is shifted into the direction of the positive values due to the conjugation by the electron acceptor effect of the nitro group, viz. the reduction of the N-N bond is facilitated. On the introduction of the methoxy group (electron donor) the contrary is observed - a sharp jerk of the potential into the direction of negative values (Table 2). 3) On the transition of di-substituted hydrazines to the tetra-substituted hydrazines the influence exerted by the substituents on the solidity of the N-N bond changes surprisingly: the nitro groups at a p-position of the phenyl ring shift the half-wave potential into the direction of the negative values, whereas the introduction of methoxy groups is not followed by the expected complication of the reduction of the N-N bond on the dropping mercury electrode (Table 2). It can be assumed that

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in the tetraaryl hydrazines contrary to the di-aryl hydrazines both the electron acceptors (nitro groups) and the electron donors (methoxy groups) were removed by some factors from the conjugation with the p-electrons of the central nitrogen atoms. The comparison of the measured and computed dipole moments of the various hydrazine configurations showed that nearly all investigated derivatives and the simple hydrazine itself have no free dipolar rotation in relation with the N-N bond (Fig 1). The reasons are steric hindrances which occur both in the cis- and in the trans-configuration and cause the absence of the p- π -conjugation in the molecule. There are 1 figure, 2 tables, and 11 references, 1 of which is Soviet.

ASSOCIATION: Ural'skiy politekhnicheskiy institut im. S. M. Kirova (Ural Polytechnical Institute imeni S. M. Kirov)

PRESENTED: November 20, 1956, by I. N. Nazarov, Academician

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5(3)

AUTHORS: Pushkareva, Z. V., Latosh, N. I.

SOV/ 20-123-4-35/53

TITLE: Diacyl Derivatives of Phenyl Hydrazine (Diatsilproizvodnyye fenilgidrazina) On the Problem of the Relation Between the Chemical Structure and the Analgesic Effect (K voprosu vzaimosvyazi khimicheskogo stroyeniya i anal'geziruyushchego deystviya)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 4, pp 700 - 703 (USSR)

ABSTRACT: The anodynes (anaesthetics) used in modern medicine, such as antipyrine and pyramidon, unfortunately have a harmful side effect on the human organism. The experiments for the production of pyramidon-N-oxide in 1929 (Ref 5) caused the authors to synthesize the derivatives (of phenyl hydrazine of the complete formula III) mentioned in the title. The aim of this work was to find some less toxic products such as the dioxy pyramidon (II) which was unexpectedly produced in the place of the N-oxide of pyramidon. The first group of the obtained simple substances consisted of "skeleton substances". Their R_1 , R_2 , and R_3 were

Card 1/4 were methyl and phenyl radicals in all possible combinations:

Diacyl Derivatives of Phenyl Hydrazine. On the Problem of SOV/2c-123-4-35/53
the Relation Between the Chemical Structure and the Analgesic Effect

(IV) to (IX). By their means the effect of the relatively simple structural transformations in the α - and β -acyl radicals of phenyl hydrazine on the properties of the molecules could be traced. Furthermore, various substituents were introduced into the nucleus of the benzoyl radical (R_2) of the second group (derivatives of α -benzoyl- β -acetyl- β -methyl-phenyl hydrazine (VIII)). A number of substances were formed which were structurally related to the benzoyl radical (complete formula (X)), namely from (XI) to (XIII). As there was no benzoyl derivative with electron acceptor substituent in the nucleus the α -isonicotyl- β -acetyl- β -methyl-phenyl hydrazine (XIV) was synthesized. The compounds (XV) and (XVI) were obtained supplementary on the second group. The α -acyl radical also contained the phenyl radical, however, it was not directly connected with the carbonyl group but separated from it. In (XVI) the separating group was a head of the conjugation ($-\text{CH}=\text{CH}-$), in (XV) it broke the conjugation chain ($-\text{CH}_2-$). The substance (XV) is something like a partly hydrated dioxy pyrimidin (II) and in the α -position contains a dialkyl amino acetyl radical instead of an oxamide residue. Phenyl hydrazine or hydrazo benzene served for all

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these syntheses as initial materials. From them the further materials were produced according to schemes (I) and (II). Dioxy pyramidon is difficult to crystallize (Refs 5,6). This is correct for all synthesized diacyl derivatives to a higher or lower degree, whereas the monoacyl products ((XVIII) and others) were easily crystallized and purified. For this reason the second scheme (II) was employed in the syntheses. The optimum conditions of a partial deacylation (Ref 7) were investigated. They made it possible to produce (XVIII) in a yield of 85-86%. Table 1 gives the properties of the hitherto undescribed synthetic substances. The physico-chemical properties were separately published. The analgesic effect is studied at the Sverdlovskiy gosudarstvennyy meditsinskiy institut, kafedra farmakologii (Sverdlovsk State Medical Institute, Chair of Pharmacology). According to the results available (Ref 12) the substances of the type (X) are the best. There are 1 table and 12 references, 2 of which are Soviet.

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ASSOCIATION: Ural'skiy politekhnicheskii institut im. S. M. Kirova (Ural
Polytechnical Institute imeni S. M. Kirov)

PRESENTED: November 20, 1956, by I. N. Nazarov, Academician

SUBMITTED: October 12, 1956

Card 4/4

AUTHORS: Fushkareva, Z.V., Omel'chenko, S.I. SOV/80-32-2-55/56

TITLE: Investigation of the Peculiarities of the Structure and of Chemical Transformations of Carbazole and Some of Its Derivatives (Issledovaniye osobennostey stroyeniya i khimicheskikh prevrashcheniy karbazola i nekotorykh yego proizvodnykh)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol XXXII, Nr 2, pp 467-469 (USSR)

ABSTRACT: The derivatives of carbazole are dyes which are resistant to light and washing. Several dyes have been synthesized here on the base of 3-diazocarbazole with 1,8-acetylaminoanthol-3,6-disulfoacid, 1,8-aminanthol-3,6-disulfoacid, etc. The color of the dyes ranges from black to golden-yellow. They may be used for several fabrics, like natural and artificial silk, cotton, etc.

Card 1/2 There are 2 tables and 6 references, 1 of which is Soviet, 3 German, 1 Swiss and 1 American.

SOV/80-32-2-55/56

Investigation of the Peculiarities of the Structure and of Chemical Transformations of Carbazole and Some of Its Derivatives

ASSOCIATION: Ural'skiy politekhnicheskiy institut imeni S.M. Kirova (Ural Polytechnical Institute imeni S.M. Kirov)

SUBMITTED: August 6, 1957

Card 2/2

5(3)

AUTHORS:

L. tosh, N. I., Pushkareva, Z. V.

SOV/20-124-1-27/69

TITLE:

Chemical Structure and Some Properties of Diacyl Derivatives of Phenylhydrazine (Khimicheskoye stroeniye i nekotoryye svoystva diatsilproizvodnykh fenilgidrazina)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 1, PP 98 - 101 (USSR)

ABSTRACT:

The authors described derivatives of the type mentioned in the title with a total formula (I) (Ref 1). They are analogous to the analgesic dioxy-pyramidon (II) which is less toxic than pyramidon but not inferior as to the analgesic effect. In addition to pharmacological investigations the authors determined the absorption spectra in the ultraviolet region and the dipole moments of the substances synthesized. From these spectra of the mono and diacyl hydrazines (R_1 being both substituted on the β -nitrogen atom and not substituted) the influence of various radicals R_1 , R_2 and R_3 upon the electronic structure of the molecules as a whole could be recognized. The spectra of 30 substances, 22 of which for the first time,

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were taken. It can be seen from figure 1 that the spectrum of the non-substituted hydrazine (Curve 1) does not differ from that of aniline (Curve 2) as to the shape of the curve. The second maximum of the phenylhydrazine, however, is shifted by 6 mμ in the direction of the long waves. The introduction of an acetyl group near the β-nitrogen atom exerts but little influence on the optical properties of the molecule (Curve 3). An acetyl on the α-nitrogen atom, on the other hand, causes a considerable variation of the spectrum (Curve 5), as compared with the non-substituted phenylhydrazine. The absorption maximum for α-acetyl-phenylhydrazine lies within the same region as that for acetanilide (Curve 4) and differs by the intensity only. In the case of the α,β-diacyl hydrazines the character of the ultraviolet spectrum depends considerably on the chemical structure of the R₂-radical in the α-acyl radical (Fig 2). If substituents occur in the α-acyl radical which are combined with the carbonyl by "conductors" of the conjugation, the spectrum is thoroughly changed (Curves 4,5). It may be said that the spectra of the various derivatives under review are in a similar relation with one another as

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the spectra of the acid anilides corresponding to the α -acyl radicals. The resemblance of the anilide spectrum to that of the corresponding diacyl-phenylhydrazine is then the most pronounced if a considerable conjugation effect is manifested in the α -acyl-radical. It can be seen from table 4 that not only the introduction of an acyl radical in the neighborhood of the β -nitrogen atom, but also that of a methyl or phenyl radical changes but little the optical properties of the molecule. Since the characteristic of the polarity of the derivatives can be important for the relation of the chemical structure with the analgesic activity, the dipole moments of the substances in question were determined. Similar values of these moments at quite different structure of the acid radicals can be seen from table 1. The authors express some suppositions for the interpretation of this phenomenon. There are 4 figures 1 table , and 7 references, 3 of which are Soviet.

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Chemical Structure and Some Properties of Diacyl
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ASSOCIATION: Ural'skiy politekhnicheskii institut im. S. M. Kirova
(Ural Polytechnic Institute imeni S. M. Kirov)

PRESENTED: November 20, 1956, by I. N. Nazarov, Academician

SUBMITTED: October 12, 1956

Card 4/4

STRAKHOV, A.V.; PUSHKAREVA, Z.V.

Investigation of heterocyclic N-oxides. Report No. 9: Preparation and properties of n-oxides from heterocycles with condensed rings. Trudy Ural. politekh. inst. no.94:34-44 '60.
(MIRA 15:6)
(Heterocyclic compounds)

OMEL'CHENKO, S.I.; PUSHKAREVA, Z.V.; SHISHKINA, V.I.

Investigation of the formation peculiarities and chemical changes
of carbazole and some derivatives. Report No.6: Dyes of the
triarylmethane type from carbazole. Trudy Ural. politekh. inst.
no.94:45-47 '60. (MIRA 15:6)
(Carbazole) (Dyes and dyeing)

GRIGOR'YEV, A.D.; PUSHKAREVA, Z.V.

Preparation of vanillin from coniferous wood sawdust and hydrolytic
lignin by means of copper oxide. Trudy Ural.politekh.inst.

no.96:8-18 '60.

(Vanillin)

(Lignin)

(Wood waste)

(MIRA 14:3)

ALFEYEVA, Ye.V.; PUSHKALEVA, Z.V.; GONCHAROVA, I.N.

Study in the series of N-oxides. Report No.8: Preparation
and purification of embichine N-oxide. Trudy Ural.politekh.
inst. no.96:32-36 '60. (MIFA 14:3)
(Embichine)

KUZNETSOVA, V.I., kand. tekhn. nauk, red.; KUZ'MINA, P.P., kand.
geogr. nauk, red.; PUSHKAREVA, V.F., kand. fiz.-mat.
nauk, red.

[Materials of the Interdepartmental Conference on the
Problem of Studying Evaporation from the Land Surface,
August 1-5, 1961] Materialy Mezhdudomstvennogo sove-
shchaniia po probleme izucheniia ispareniia s poverkh-
nosti sushi, 1-5 avgusta 1961 g. Valdai, Gos.gidro-
logicheskii in-t, 1961. 263 p. (MIRA 17:2)

1. Mezhdudomstvennoye soveshchaniye po probleme izu-
cheniya ispareniya, 1961. 2. Gosudarstvennyy gidrologi-
cheskiy institut, Leningrad (for Kuz'mina, Pushkareva).

PUSHKAREVA, Z.V. prof., doktor khimicheskikh nauk

Some problems concerning organic synthesis and the structure of organic substances; a survey of research completed by the Department of the Technology of Organic Synthesis during 1950-1960. Sbor. nauch. trud. Ural. politekh. inst. no.122:49-62 1961. (MIRA 17-12)

MOLDAVER. B.L.; PUSHKAREVA. Z.V.

Synthesis of some β -phenyl-d, l-alanine derivatives. Zhur.ob.khim.
31 no.5:1560-1569 My '61. (MIRA 14:5)

1. Laboratoriya khimii Sverdlovskogo nauchno-issledovatel'skogo
instituta po profilaktike poliomyelita.
(Alanine)

RADINA, L.B.; PUSHKAREVA, Z.V.

Synthesis of B-(9-acridyl)-alanine and its N-oxides. Zhur.ob.
khim. 31 no.7:2362-2367 J1 '61. (MIRA 14:7)

1. Sverdlovskiy nauchno-issledovatel'skiy institut po profilak-
tike poliomyelita.
(Alanine)

ALEXSEYEVA, L.V.; PUSHKAREVA, Z.V.

Synthesis of substances containing fragments of folic acid.

Part 1: Synthesis of some derivatives of glutamic acid.

Zhur.ob.khim. 31 no.8:2567-2572 Ag '61. (MIRA 14:8)

(Glutamic acid)

PUSHKAREVA, Z.V.; KONYUKHOV, V.N.

Synthesis and study of heterocyclic derivatives with a potential antitumor activity. Part 1: Some derivatives of m-phenanthroline. Zhur.ob.khim. 31 no.9:2914-2918 S '61. (MIRA 14:9)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova.
(Phenanthroline)

ALEKSEYEVA, L.V.; PUSHKAREVA, Z.V.

Synthesis of products containing fragments of folic acid. Part 2:
Dipeptide of diethyl ester of d,l-glutamic acid and
 β -[n-bis(β -chloroethyl)aminophenyl]- α -alanine. Zhur.ob.khim. 31
no.9:2918-2922 S '61. (MIRA 14:9)

1. Ural'skiy politekhnicheskii institut imeni S.M.Kirova.
(Glutamic acid) (Alanine)

VORONINA, N.M.; PUSHKAREVA, Z.V.; RADINA, L.B.; BABIKOVA, N.V.

Synthesis and study of some acridine compounds and their N-oxides.
Part 1. Zhur.ob.khim. 30 no.10:3476-3480 0 '61. (MIRA 14:4)

1. Sverdlovskiy nauchno-issledovatel'skiy institut po profilaktike
poliomiyelita.

(Acridine)

RADINA, L.B.; PUSHKAREVA, Z.V.; VORONINA, N.M.; KHVOROVA, N.M.

Polarographic reduction of some acridine derivatives. Part 2.
Zhur.ob.khim. 30 no.10:3480-3486 O '61. (MIPA 14:4)

1. Sverdlovskiy nauchno-issledovatel'skiy institut po profilaktike
poliomiyelita.

(Acridine) (Reduction, Electrolytic)

MOLEDAVER, B.L.; PUSHKAREVA, Z.V.

Synthesis and properties of some derivatives of β -phenylalanine.
Part 2: Synthesis of β -(p-dimethylaminophenyl)-D,L-alanyl-D,L-
alanine and its N-oxide. Zhur. ob. khim. 31 no. 11:3793-3799
N '61. (MIRA 14:11)

1. Sverdlovskiy nauchno-issledovatel'skiy institut po profilaktike
poliomyelita.

(Alanine)

SHISHKINA, V.I.; PUSHKAREVA, T.V.; IGON'KINA, T.N.

Products of the reaction between 3-aminocarbazole and
8-hydroxynaphthoic acid. Zhur.prikl.khim. 34 no.8:1895-1898
Ag '61. (MIRA 14:8)

1. Ural'skiy politekhnicheskii institut imeni S.M. Kirova.
(Carbazole)
(Naphthoic acid)

KOKOSHKO, Z.Yu.; CHUPAKHIN, O.N.; SMIRNOVA, N.B.; KODOLOV, V.I.; PUSHKAREVA, Z.V.

Quinoline bases of coal tar as a source of raw materials for the production of monomers. Report No.1: Carrying out the reaction of condensation of quinaldine with formaldehyde directly in a narrow fraction of quinoline bases. Plast.massy no.2:51-54 '62.
(MIRA 15:2)

(Quinaldine) (Formaldehyde)

PUSHKAREVA, Z.V.; ALEKSEYEVA, L.V.

Synthesis of substances obtaining "fragments" of folic acid.
Part 3: Synthesis of certain derivatives of pteridine. *Zhur.ob.-*
khim. 32 no.4:1058-1062 Ap '62. (MIRA 15:4)

1. Ural'skiy politekhnicheskii institut imeni S.M.Kirova.
(Pteridine)

KONYUKHOV, V.N.; P'YANKOVA, L.N.; PUSHKAREVA, Z.V.

Syntheses in the phenanthroline series. Zhur.ob.khim. 32 no.8:2745-
2746 Ag '62. (MIRA 15:9)

1. Ural'skiy politekhnicheskii institut imeni S.M. Kirova.
(Phenanthroline)

CHUPAKHIN, O.N.; PUSHKAREVA, Z.V.; DARIYENKO, Ye.P.

Reactions and derivatives of quinaldine. Part. Synthesis and
properties of some bis- α -thioquinaldinamides. Zhur.ob.khim. 33
no.7:2401-2407 J1 '63. (MIRA 16:8)

1. Ural'skiy politekhnicheskii institut imeni S.M.Kirova.
(Quinaldine)

CHUPAKHIN, O.N.; PUSHKAREVA, Z.V.; KRYLOV, Ye.I.

Reactions and derivatives of quinaldine. Vest. AN Kazakh. SSR
19 no.9:85-92 S '63. (MIRA 16:11)

ALEKSEYEVA, L.V.; PUSHKAREVA, Z.V.

Synthesis of "fragments" of folic acid. Zhur. ob. khim. 33
no.5:1693-1694 My '63. (MIRA 16:6)

(Folic acid)

ALEKSEYEVA, L.V.; PUSHKAREVA, Z.V.; DYUL'DINA, S.N.

Synthesis of p-bis(β -chloroethyl)aminobenzoyl derivatives of
some amino acids. Zhur.ob.khim. 33 no.10:3145-3147 0 '63.
(MIRA 16:11)

MURSHTEYN, M.K.; SHISHKINA, V.I.; PUSHKAREVA, Z.V.

Synthesis and transformations of 3-nitro- and 3-amino-9-cyanoethylcarbazole. Zhur.prikl.khim. 36 no.3:644-649 My '63.
(MIRA 16:5)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova.
(Carbazole)

MURPHY, J. J. (1964) I.V.

Polymers of polyacetylene. Metod. poluch. khim. reak. 2
(MIRA 18:12)
no. 11:28-27 '64.

in: Izvestiya politsekhicheskoy institut. Submitted April 1964.

PENYUGALOVA, E.P., PUSHKAREVA, Z.V.

2-(p-Dimethylaminophenyl)-, 2-(p-diethylaminophenyl)-, and
2-(p-nitrophenyl)-4,5-(2,3-phenazino)-imidazoles. Metod.
poluch. khim. reak. i prepar. no.11:49-52 '64. (MIRA 18:12)

1. Ural'skiy politekhnicheskii institut. Submitted April 1964.